

LISTING OF CLAIMS

CLAIM 1 (original)

An apparatus for producing nonsymmetrical three dimensional food products comprising:

- an iris diaphragm for shaping and portioning food product fed therethrough;
- a food pump for feeding food product to the iris diaphragm;
- a gearbox having a plurality of gears connected to the iris diaphragm for opening and closing said diaphragm to the feed of food product;
- a motor connected to the gearbox to drive the gears in the gearbox;
- a vector drive controlling the motor; and,
- an encoder providing signals to the vector drive directing the operation of the motor to shape the food product exiting from the iris diaphragm.

CLAIM 2 (currently amended)

An apparatus for producing nonsymmetrical three dimensional food products in accordance with Claim 1 further including:

a plurality of iris diaphragms coupled to the gearbox to [function] simultaneously [shaping] shape and [portioning] portion food product.

CLAIM 3 (original)

An apparatus for producing nonsymmetrical three dimensional food products in accordance with Claim 1 wherein:

the motor comprises an induction motor, which may be controlled to start, stop, speed up, slow down and reverse during a single pumping operation to provide a predetermined shape from the iris diaphragm.

CLAIM 4 (original)

An apparatus for producing nonsymmetrical three dimensional food products in accordance with Claim 1 wherein:

the iris diaphragm comprises a plurality of moveable blades arranged in a shutter like configuration to provide an opening for food product, a blade drive ring connected to the blades to open and close the blades about said opening in a predetermined sequence related to the product being formed, a drive lever having one end connected to the drive ring and the other end connected to the gear box; and,

a flip cutter mounted adjacent the iris opening to flip off the shaped food product at the end of a portion.

CLAIM 5 (currently amended)

An apparatus for producing nonsymmetrical three dimensional food products comprising:

- an iris diaphragm for shaping and portioning food product fed therethrough;
- a food pump for feeding food product to the iris diaphragm;
- a gearbox having a plurality of gears connected to the iris diaphragm for opening and closing said diaphragm to the feed of food product;
- a motor connected to the gearbox to drive the gears in the gearbox;
- a servo device controlling the motor; and,
- an encoder providing signals to the servo [drive] device directing the operation of the motor to shape the food product exiting from the iris diaphragm.

CLAIM 6 (original)

An apparatus for producing nonsymmetrical three dimensional food products in accordance with Claim 5 wherein:

the motor comprises a synchronous motor.

CLAIM 7 (cancel)

CLAIM 8 (cancel)

CLAIM 9 (cancel)

CLAIM 10 (cancel)

CLAIM 11 (cancel)

CLAIM 12 (cancel)

CLAIM 13 (new)

An apparatus for producing nonsymmetrical three dimensional food products comprising:

- an iris diaphragm for shaping and portioning food product fed therethrough;
- a food pump for feeding food product to the iris diaphragm;
- a gearbox having a plurality of gears connected to the iris diaphragm for opening and closing said diaphragm to the feed of food product;
- a motor connected to the gearbox to drive the gears in the gearbox;
- a vector drive controlling the motor; and,
- an encoder providing signals to the vector drive directing the operation of the motor to shape the food product exiting from the iris diaphragm into configurations such as chicken drummies, fish and torpedoes.